

Amendments to the Claims

This listing of claims will replace all prior versions and listing of claims in the application.

Claims 1 to 269 (cancelled).

270. (Currently amended) An isolated protein having anticoagulant activity and having one or more Nematode-extracted Anticoagulant Protein domains ("NAP domains"), wherein each NAP domain includes the sequence:

Cys-A1-Cys-A2-Cys-A3-Cys-A4-Cys-A5-Cys-A6-Cys-A7-Cys-A8-Cys-A9-Cys-A10 (FORMULA III), wherein

(a) A1 is an amino acid sequence of 7 to 8 amino acid residues;

(b) A2 is an amino acid sequence;

(c) A3 is an amino acid sequence of 3 amino acid residues and has the sequence Asp-A3_a-A3_b wherein A3_a and A3_b are independently selected;

(d) A4 is an amino acid sequence having a net anionic charge;

(e) A5 is an amino acid sequence of 4 amino acid residues and has the sequence A5_a-A5_b-A5_c-A5_d (SEQ. ID. NO. ~~NO~~: 85), wherein A5_a through A5_d are independently selected amino acid residues;

(f) A6 is an amino acid sequence;

(g) A7 is an amino acid residue selected from the group consisting of Val and Ile;

(h) A8 is an amino acid sequence of 11 to 12 amino acid residues;

(i) A9 is an amino acid sequence of 5 to 7 amino acid residues; and

(j) A10 is an amino acid sequence;
 wherein each of A2, A4, A6 and A10 has an independently selected number of independently selected amino acid residues and each sequence is selected such that each NAP domain has in total less than ~~about~~ 120 amino acid residues, and wherein the protein has a NAP domain with an amino acid sequence ~~substantially the same as~~ having at least 90% homology with the NAP domain of AcaNAPc2 (SEQ. ID. NO. ~~NO~~: 59).

271. (Currently amended) An isolated protein having anticoagulant activity and having one or more NAP domains, where each NAP domain includes the sequence:

Cys-A1-Cys-A2-Cys-A3-Cys-A4-Cys-A5-Cys-A6-Cys-A7-Cys-A8-Cys-A9-Cys-A10 (FORMULA III), wherein

- (a) A1 is an amino acid sequence of 7 to 8 amino acid residues;
- (b) A2 is an amino acid sequence;
- (c) A3 is an amino acid sequence of 3 amino acid residues and has the sequence Asp-Lys-Lys;
- (d) A4 is an amino acid sequence having a net anionic charge;
- (e) A5 is an amino acid sequence of 4 amino acid residues and has the sequence A5_a-A5_b-A5_c-A5_d wherein A5_a is Leu, A5_c is Arg and A5_b and A5_d are independently selected amino acid residues (SEQ. ID. NO. ~~NO~~: 357);
- (f) A6 is an amino acid sequence;
- (g) A7 is Val;
- (h) A8 is an amino acid sequence of 11 to 12 amino acid residues and includes the amino acid sequence A8_a-A8_b-Gly-Phe-Tyr-Arg-Asn (SEQ. ID. NO. ~~NO~~: 79), wherein at least one of A8_a and A8_b is Glu or Asp;

(i) A9 is an amino acid sequence of 5 to 7 amino acid residues; and

(j) A10 is an amino acid sequence;
wherein each of A2, A4, A6 and A10 has an independently selected number of independently selected amino acid residues and each sequence is selected such that each NAP domain has in total less than ~~about~~ 120 amino acid residues, and wherein the protein has a NAP domain with an amino acid sequence ~~substantially the same as~~ having at least 90% homology with the NAP domain of AcaNAPc2 (SEQ. ID. NO. ~~NO~~: 59).

272. (Currently amended) An isolated protein having Factor VIIa/TF inhibitory activity having a NAP domain with an amino acid sequence ~~substantially the same as~~ having at least 90% homology with the NAP domain of AcaNAPc2 (SEQ. ID. NO. ~~NO~~: 59).

273. (Currently amended) An isolated protein having an amino acid sequence ~~substantially the same as~~ having at least 90% homology with AcaNAPc2 (SEQ. ID. NO. ~~NO~~: 59).

274. (Currently amended) An isolated protein having an amino acid sequence ~~substantially the same as~~ having at least 90% homology with AcaNAPc2/proline.

275. (Previously presented) A method of treating a pathologic condition characterized by abnormal thrombosis by preventing or decreasing the abnormal thrombosis which comprises administering a protein of claim 270.

276. (Previously presented) A method of treating a pathologic condition characterized by abnormal thrombosis by preventing or decreasing the abnormal thrombosis which comprises administering a protein of claim 271.

277. (Previously presented) A method of treating a pathologic condition characterized by abnormal thrombosis by preventing or decreasing the abnormal thrombosis which comprises administering a protein of claim 272.

278. (Previously presented) A method of treating a pathologic condition characterized by abnormal thrombosis by preventing or decreasing the abnormal thrombosis which comprises administering a protein of claim 273.

279. (Previously presented) A method of treating a pathologic condition characterized by abnormal thrombosis by preventing or decreasing the abnormal thrombosis which comprises administering a protein of claim 274.

280. (Previously presented) A method according to any one of claims 275 to 279 wherein said pathologic condition is disseminated intravascular coagulopathy.

281. (Previously presented) A method according to any one of claims 275 to 279 wherein said abnormal thrombosis occurs in the venous vasculature of patients undergoing major surgery in the lower ~~extremities~~ extremities or abdominal area.

282. (Previously presented) A pharmaceutical composition comprising a protein of any one of claims 270 to 274 and a pharmaceutically acceptable carrier.